LBAM Environmental Advisory Task Force Meeting 1/8/08

Biological Control of the Light Brown Apple Moth

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Outline

- Classical biological control
  - Brief background
  - Cooperative effort with UC
- Biological control through augmentation
  - Brief Background
  - Research
  - Augmentation to assist mating disruption control effort
- Other activities: monitoring LBAM and impact of native natural enemies on LBAM, etc.

Classical Biological Control

- **Intent** - obtain effective, host specific natural enemies from where LBAM is native (Australia), for introduction into California.

- **Action Plan** - UC, CDFA, USDA, & Australian scientists:
  - Collect most capable candidate natural enemy species
  - Test in quarantine for host specificity
  - Obtain release permits
  - Release and evaluate establishment & effectiveness

Dolichogenidea tasmanica

Family: Brachonidae

Biological Control by Augmentation

- **Intent** - Utilize large numbers of *Trichogramma* to knock down localized, high-density populations of LBAM.

- **Background**
  - *T. pretiosum* and *T. platneri* are native to Calif.
  - *T. platneri* – 60% reduction of codling moth in walnut & pome fruit (Mills et al. 2000)

Augmentation

- **Action Plan**
  - Test commercially available native species of *Trichogramma* egg parasitoids to determine vulnerability of LBAM eggs (i.e., are LBAM readily parasitized by *Trichogramma*)
  - Arrange for purchase of *Trichogramma* from commercial insectary
  - Initiate spring release of *Trichogramma* at locations where LBAM is abundant
    - Release *Trichogramma* beginning Feb. or March
    - Evaluate - egg parasitism in release vs. non-release locations

Other activities

- Population monitoring of LBAM
- Population monitoring of native natural enemies attacking LBAM
- Assessing the ability of parasites of other tortricid species to attack LBAM (lab tests)